CLAIMS

[0032] 1. A liquified gas cryostat which comprises:

inner and outer walls defining an evacuated housing;

a multilayer insulation positioned between the inner and outer walls; and

at least one radiation shield circumscribing the inner wall between the inner and outer walls so as to extend over an area of the inner wall which is contacted and cooled by liquified gas in the cryostat when in use,

wherein the radiation shield comprises a plurality of rods which are thermally conducting and electrically insulating when the cryostat contains liquified gas.

[0033] 2. A cryostat according to claim 1 wherein the rods are formed from a sintered ceramic material, or sapphire or diamond powder composite.

[0034] 3. A cryostat according to claim 2 wherein the rods are formed from alumina, aluminium nitride, or silicon carbide.

[0035] 4. A cryostat according to any preceding claim wherein the rods have a diameter of from 1 to 2 mm.

[0036] 5. A cryostat according to any preceding claim wherein the radiation shield comprises a glass reinforced plastic substrate on which the rods are positioned.

[0037] 6. A cryostat according to any preceding claims wherein the radiation shield comprises an end plate fixed to the substrate.

[0038] 7. A cryostat according to claim 6 wherein the end plate is formed from alumina.

[0039] 8. A cryostat according to claim 6 or 7 wherein the end plate has a thickness of from 1 to 2 mm.

[0040] 9. A cryostat according to any preceding claim wherein the radiation shield in use is cooled by being in

contact with a venting tube of the cryostat through which gas is vented, as liquified gas boils off, via a heat exchanger, for transferring heat from the radiation shield to the tube.

[0041] 10. A cryostat according to claim 9 wherein the heat exchanger is fabricated from metal or a ceramic material.

[0042] 11. A cryostat according to claim 9 or 10 wherein the heat exchanger is in the form of strips or rods or material.

[0043] 12. A cryostat according to claim 10 or 11 wherein the heat exchanger comprises rods of aluminium.

[0044] 13. A cryostat according to any preceding claim which contains liquid helium.

[0045] 14. A cryostat according to any preceding claim which houses a Superconducting Quantum Interference Device for MRI or NMR scanning.

[0046] 15. A liquified gas cryostat substantially as hereinbefore described with reference to the accompanying drawings.